

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,248,850 B2  
APPLICATION NO. : 10/729638  
DATED : July 24, 2007  
INVENTOR(S) : David H. Shen

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page, showing an illustrative figure should be deleted and substitute therefor the attached title page.

Signed and Sealed this

Twenty-seventh Day of July, 2010

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, flowing style with a large, stylized 'D' and 'K'.

David J. Kappos  
*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
**Shen**

(10) **Patent No.:** **US 7,248,850 B2**  
(45) **Date of Patent:** **Jul. 24, 2007**

(54) **PASSIVE SUBHARMONIC MIXER DESIGN**

(75) Inventor: **David H. Shen**, Saratoga, CA (US)

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 379 days.

(21) Appl. No.: **10/729,638**

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(65) **Prior Publication Data**

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**Related U.S. Application Data**

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(51) **Int. Cl.**  
**H04B 1/28** (2006.01)

(52) **U.S. Cl.** ..... **455/318; 455/333**

(58) **Field of Classification Search** ..... **455/313, 455/315, 318-319, 323, 324, 326, 333; 327/113**  
See application file for complete search history.

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(57) **ABSTRACT**

A mixer design is described that permits greater integration on standard silicon chips with an improvement in power and linearity compared to previous mixer designs, enabling low-power, high performance RF reception.

**9 Claims, 5 Drawing Sheets**

